

REMARKS

1. Claims 24-28, 31-37, and 39-42 are pending in the present application and have all been rejected by the Examiner. These remarks respond to the Office Action dated May 3, 2006 and are also pursuant to a telephone conference with Examiner Basichas on June 21, 2006. The Applicants would like to thank Examiner Basichas for his time and helpful comments. It is believed that the pending claims are in a condition for allowance in view of the below Remarks, and a notification of allowance is respectfully requested.

2. The Examiner stated that the previous amendment to claims 24-28, 31-37, and 39-42, “appears allowable over the prior art of record” but has rejected claims 24-28, 31-37, and 39-42 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement for including new matter. In particular, the Examiner stated that “[t]here is no mention in the specification or original claims of the elements recited in this limitation.” In particular, the Examiner objected to the limitation in claim 24 that requires the monitor module to include “an output element whose output is a function of an amount of a difference between a signal produced by the sensor and a signal from an adjustable reference element pre-adjusted to represent the absence of the object.”

Applicants respectfully disagree and assert that the rejected limitation is fully supported by the specification at least in paragraphs [0032]-[0036] and also by Figure 4 as follows:

- the “output element” of the limitation is fully disclosed in paragraphs [0032]-[0034] and [0036] as an operational amplifier (“Op Amp”).
- “whose output” is fully disclosed in paragraph [0032]: “A voltage V_0 produced at the output of the Op Amp.”
- “a function of an amount of a difference between a signal produced by the sensor and a signal from an adjustable reference element” is fully disclosed in paragraph [0032]:

The charging current for C3 is of opposite polarity from C4, so the Net Current sensed by an operational amplifier Op Amp at the other end of the transformer winding of transformer T1 is proportional to the difference between the two capacitors C3 and C4. A voltage V_0 produced at the output of the Op Amp can be calculated as follows in Equation 1.

$$V_0 = \text{Net Current} \times R1 \quad (1).$$

- “signal produced by the sensor” is fully disclosed in paragraph [0034]: “The warning system 200 can operate as follows. When an object approaches the conductive area 315 on the plate 310 forming capacitor C4, the capacitance fluctuates, thereby altering the current provided to the positive terminal of the Op Amp.”
- “signal from an adjustable reference element pre-adjusted to represent the absence of the object” is fully disclosed in paragraph [0033]: “During calibration of the system, the capacitor C3 is adjusted until is equal to approximately 0 volts when no object is near the plate 310 forming the capacitor C4. The output of the Op Amp is coupled to an alerting device, such as the alerting device 202.”
- “to generate an alarm when the monitor module sends a signal to the alarm module indicating that the object is in the zone” is fully disclosed in paragraph [0035]: “In this manner, an alarm is produced when an object approaches the capacitor C4 representing the plate 310.”
- “an alarm module coupled to the monitor module to generate an alarm” is fully disclosed in paragraph [0036]: “The output V_0 of the Op Amp can be coupled to various alerting devices, such as, for example, the alerting device 202.”

To one of ordinary skill in the art, the electronic circuit elements and electrical connections in Figure 4 (*see* paragraphs [0016] and [0039]) inherently disclose “an output element whose output is a function of an amount of a difference between a signal produced by the sensor (C4) and a signal from an adjustable reference element (C3) pre-adjusted to represent the absence of the object.” The “output element” is the triangular element labeled “Op Amp,” having input signal connections to its plus (“+”) and minus (“-”) input terminals and producing output “ V_0 .” To one of ordinary skill in the art, it is well known that an Op Amp amplifies the difference between the signals at its plus and minus inputs, usually with a negative feedback loop, as disclosed in Figure 4 by R1 and C2.

Conclusion


In view of the present Remarks, Applicants submit that the pending claims are supported by the specification and drawings as originally filed. Applicants therefore submit that the pending claims are in condition for allowance and that the Examiner should pass this application to issuance.

Respectfully submitted,

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